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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/681,608	10/08/2003	David Romme Hansen	TH-1768H	7414

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EXAMINER	
ASINOVSKY, OLGA	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/681,608	HANSEN ET AL.	
	Examiner	Art Unit	
	Olga Asinovsky	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/08/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 3, 15 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 should be referring to claim 1, since there is no component (b) in claim 3.

Claim 15 should be referring to claim 1 since there is no initiator in claim 3.

Claim 16 should be referring to claim 1 since there is no auxiliary in claim 3.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knoll U.S. Patent 6,531,263 (cited by applicants) in view of Shibata et al U.S. Patent 5,191,024.

In light of a broad definition of "controlled-distribution of block copolymer" in the present claims, this "controlled-distribution" is readable to any block copolymer produced by sequential addition of monomer(s) and initiator for making a predictable or desirable

controlled distribution of block polymers in said block copolymer, or for producing a desirable molecular weight distribution for a block copolymer.

4. Knoll discloses a photopolymerizable composition comprising a mixture of SIS block copolymer and SBS block copolymer, ethylenically unsaturated monomers, initiator and plasticizer for making flexographic printing plates, column 2, lines 23-30. The SIS block copolymer is readable in applicants' claimed non-hydrogenated styrene/diene block copolymer. The SBS block copolymer can have formula (SB)x(B)yZ, wherein S and B are styrene and butadiene blocks, and Z is a polyfunctional coupling agent, column 3, lines 30-42. The butadiene units in the polybutadiene blocks may have1,2-configuration, column 3, line 24, for the present claim 3. The vinyl bond content in the total SBS block copolymer is in the range from 5 to 70% by weight, column 3, lines 25-26, for the present claims. Thus, the SBS block copolymer is hydrogenated. The SBS block copolymer in Knoll is readable in applicants' claimed hydrogenated controlled-distribution block copolymer. The claimed (b) photopolymerizable ethylenically unsaturated low molecular weight compound is readable for being a polymerizable compound having up to 2000g/mol at column 3, lines 51-66 in Koll. The photopolymerizable composition includes a plasticizer and photoinitiator, column 4, lines 12-14. The mixture of SIS with SBS can be produced in a clear, non-hazy mixture, because the transparency is depending on a higher polystyrene content. The polystyrene content of the SBS block copolymer is from 5 to 25% by weight, column 3, lines 5-7.

The difference between Knoll'263 and the present claims is the requirement in the present claims that a composition comprises a hydrogenated controlled-distribution block copolymer. However, it is not clear the statement "controlled-distribution" in the present claims. The examiner presumes that a block copolymer is produced by sequentially charging a specified monomer(s) and an initiator for obtaining the desired structure of a block copolymer. Knoll'263 does not clearly disclose a method of producing a SBS block copolymer. Also, Knoll does not disclose a higher degree of hydrogenation of diene block polymer.

Shibata discloses a hydrogenated diene block copolymer represented by the formulas at column 5, line 25. The hydrogenated diene block copolymer is produced by an anionic polymerization process and hydrogenated under condition such that the conjugated diene portions are saturated to the level in the range 95-100%, column 3, lines 52-54 and column 6, lines 10-15. The block copolymer is produced by controlled sequential addition of monomer(s) and initiator for controlling the structure of the resulting block copolymer, column 5, lines 5-46. Thus, Shibata discloses controlled-distribution block copolymer.

It would have been obvious to one of ordinary skill in the art to modify a photopolymerizable composition in Knoll'263 by replacing a hydrogenated SBS block copolymer in Knoll's invention with a high degree hydrogenated block copolymer as discloses Shibata because a SBS block copolymer in Knoll can be produced by the analogous method and the order of monomer(s) addition is depending on the chosen

block copolymer structure, and the degree of hydrogenating said block copolymer is depending on the desired characteristics of the resulting block copolymer.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Asinovsky whose telephone number is 571-272-1066. The examiner can normally be reached on 9:00 to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

O.A
January 06, 2005

Olga Asinovsky
Examiner
Art Unit 1711

James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700